

APPENDIX G - Preparation Guidelines for Project Scope Summary Report (Pavement Rehabilitation)

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APPENDIX G - Preparation Guidelines for Project Scope Summary Report (Pavement Rehabilitation)

ARTICLE 1 - Overview

Use of Project Scope Summary Report (Pavement Rehabilitation)

These guidelines provide information to be used with the procedures described in Chapter 9, Article 5, of the *Project Development Procedures Manual* for pavement rehabilitation projects. All pavement rehabilitation projects are funded from the HA22 Program. The Project Scope Summary Report (PSSR) for pavement rehabilitation projects satisfies the requirements for both the Project Study Report (PSR) and the Project Report (PR) for projects in the HA22 Program. When the PSSR (Pavement Rehabilitation) form is completed and approved by the District Director or their designee and a Categorical Exemption/Exclusion Form or draft environmental document is attached, it serves as the project approval document.

The District HA22 Program Coordinators are responsible for selection of projects for the HA22 candidate list. The district is also responsible for initiating and developing PSSR's for HA22 projects. District Design, with assistance from Maintenance, should jointly do the scoping and cost estimating for the selected projects. Expenditure authorizations should be secured in the same manner as PSR's.

Since the PSSR is used as the primary project reference document by both Headquarters and the District, the need for accurate and complete project information is essential.

Project Coordination

The scope of the geometric improvements proposed for a resurfacing, restoration and rehabilitation (RRR) project is quite often influenced by potential impacts on the surrounding land and development. This is especially true for non freeway RRR projects. Social, environmental, and economic impacts may influence the scope of a RRR project. This is particularly true where existing right of way is narrow and adjacent development is extensive.

Complex projects may require extensive Right of Way Branch and Environmental Unit involvement. It is important that those units become involved in complex projects early as possible in the project development process to avoid potential delays in project delivery and to identify potential changes in project scope, which may result in project cost increases.

Design Field Review

It is necessary to field review all RRR projects. RRR projects are usually difficult to scope and to obtain accurate design information on, unless the project is field reviewed. All project field reviews must be documented since the project development process usually takes a period of years to complete and project personnel change. Decisions and agreements made during the early phases of the process need to be documented and retained in the project files for future reference. It is important to field review all RRR projects so that reliable project scope and cost estimates can be developed early in the project development process.

Deflection Studies

Deflection studies must be completed prior to the field review by the scoping team for all asphalt concrete (AC) pavement rehabilitation projects triggered by structural deficiency. For scheduling purposes, a list of projects for deflection testing should be submitted to the Engineering Service Center (ESC) Office of Materials Engineering and Testing Services (METS) Pavement Consulting Services Branch by the District, preferably six months in advance of the field review.

Periodic reviews of the existing pavement condition should be made for pavement rehabilitation projects between approval of the PSSR and submitting the PS&E to ESC Office of Office Engineer (OOE). A follow-up deflection study may be needed prior to finalizing the PS&E and should be considered approximately one year prior to the HQOE PS&E submittal date.

Scoping Team

A scoping team staffed at the discretion of the District will field review each RRR project. The composition of the team will vary in accordance with the complexity of the project. As a minimum, a representative of METS Pavement Consulting Services Branch will be invited. The PSSR (Pavement Rehabilitation) form will be used during the project scoping process. The form should be completed by the District using information compiled prior to the scoping field review and must be furnished to each of the participants in advance of the scoping field review for their review and comments.

ARTICLE 2 - Guidelines for Completing the PSSR (Pavement Rehabilitation) Form

General

The PSSR (Pavement Rehabilitation) format is a "fill-in the blanks" type of report. The information needed to be supplied should be fairly self-explanatory from reading the form. The following background information is being provided to supplement those sections of the report that require additional guidance for them to be successfully completed.

Cover Sheet

All PSSRs should have a standard cover sheet to provide project identification information and signatures. Information to be provided includes the following:

- Title

Indicate "Project Scope Summary Report (Pavement Rehabilitation)".

- File Reference

District-County-Route-Kilometer Post (Post Mile) [Dist-Co-Rte-KP(PM)]

The Kilometer Post should be given to the nearest 0.1 kilometer; if the project is 0.2 kilometers or more in length, give both the beginning and ending Kilometer Posts. Post Miles should follow Kilometer Posts if needed for continuity of file references or other reasons.

Responsible Unit (RU)

The unit source code of the registered civil engineer in charge of the technical features of the project.

Expenditure Authorization (EA)

The multiphase EA, using the "0" phase for the project.

Month Year

Give the month and the year the report is being prepared in.

- Vicinity Map

Refer to the discussion on Strip Map under Number 15.

- On Route _____ From _____ To _____

A brief written description of the project limits that corresponds to the Kilometer Posts given above and ties the limits to commonly known physical features on the ground that can be identified on available mapping.

- Right of Way Certification

The statement shown must be used (and signed by the District Division Chief for Right of Way) indicating the review of the right-of-way information contained in the PSSR and the R/W data sheet attached to it, and a finding that the data is complete, current and accurate.

- **Recommended Approval**

A recommendation for approval must be signed by the Project Manager as an indication that all appropriate studies have been included and as an indication that the proposal is in accord with Caltrans' policies.

- **Approval**

The approval of the PSSR recommendations, signed and dated by the District Director or their designee. The date of signing becomes the official project approval date.

Registered Civil Engineer's Stamp and Statement

The second page of the PSSR (Pavement Rehabilitation) contains the required stamp or seal and signature of a registered civil engineer who is the person in responsible charge. The sheet must include a statement indicating that the registered civil engineer attests to the technical information contained herein and the data upon which recommendations, conclusions, and decisions are based. Approval of the PSSR is a management decision and is separate from this technical signature of the person in responsible charge.

2. BRIEF PROJECT DESCRIPTION

A one to two sentence summary of the scope of work proposed by the PSSR.

3. ENVIRONMENTAL STATUS

If the proposed project is categorically exempt and/or categorically excluded, the PSSR should so indicate and the approval date documented. Before approving a PSSR containing a CE statement, the individual having authority to approve the project will have in hand the CE Determination form signed by the Environmental Unit Chief and the functional unit Division Chief. The individual approving the project will then review the project to be certain that there have been no changes that affect the exemption determination and check that the project descriptions on the CE Determination form and in the PSSR correspond to each other. If there is any question, the Environmental Unit Chief must be consulted. The CE Determination form, when required, is a required attachment to the PSSR.

4. TRAFFIC DATA

Provide the information requested.

Traffic Volumes and Characteristics

Traffic data is needed in the design of all highway projects, including RRR projects. It is an important consideration both in the determination of the appropriate level of improvement (i.e. : reconstruction vs. RRR) and in the selection of values for various geometric elements. For RRR projects, the need for a formal forecast of future traffic is greatest when the current traffic is approaching the capacity of the highway, and decisions must be made regarding the timing of a major improvement such as additional lanes. RRR projects should normally be designed on the basis of current average daily traffic (ADT) and current peak period design hourly volume (DHV) to extend the structural section service life for at least 10 years. Studies to predict future traffic are not normally necessary on very low volume roads since even high percentage increases in traffic do not significantly impact design decisions.

Accident Data

Evaluation of accident data often reveals situations that require attention. In addition, relative accident rates can be an important factor in establishing the scope of a RRR project. A review of accident records is an integral part of the RRR project development process and shall be included as part of the project Safety Analysis.

Safety Enhancements

To guarantee that RRR projects address safety enhancement, all rehabilitation projects are to include a Safety Analysis (see Chapter 9, Article 5). The analysis is to be documented in a separate report. The Safety Analysis is not to be attached to the PSSR.

Safety enhancement by implementing cost-effective safety improvements is an essential consideration on a RRR project. The fact that there is a RRR project being designed provides an opportunity to do safety-related upgrading. Certain upgrades for safety and operational purposes are necessary and others are desirable. RRR projects are to be developed in a manner which considers both the necessary and the desirable safety upgrades. Necessary safety upgrades shall be included in RRR projects while desirable safety upgrades may be included as appropriate (if a desirable safety upgrade can be made at a reasonable cost).

Special emphasis should be placed on implementing cost-effective solutions for safety upgrades. When upgrading of geometric features for safety or operational improvements becomes a major factor in project costs or impacts, the project becomes "reconstruction" (the fourth R). Reconstruction design criteria are covered by new construction standards shown in the *Highway Design Manual* (HDM).

5. ROADWAY GEOMETRIC INFORMATION

Provide the information requested.

The physical characteristics of a highway and its general location often determine what improvements are necessary, desirable, possible, practical, or cost effective. Topography, climate, adjacent development, existing horizontal and vertical alignment, sight distance, cross section (pavement width, shoulder width, cross slope, side slope,

etc.), and similar characteristics should be considered in determining the scope of geometric or safety improvements to be made in conjunction with the RRR work.

In addition, the existing pavement condition and the scope of needed pavement improvements dictate to a large extent, what improvements are feasible, prudent, or practical. More significant geometric upgrading might be appropriate if the pavement improvements are substantial, but may not be appropriate or economical if the needed pavement improvements are relatively minor.

Conversely, the existing geometric condition and the scope of needed geometric improvements often influence the scope of pavement improvements. The geometric deficiencies may be so severe that the overall highway improvements must be more substantial in order to facilitate the necessary geometric improvements. A point may be reached, however, where even with substantial geometric deficiencies, the economic and environmental constraints preclude making the improvements indicated by the criteria presented in the HDM and Design Information Bulletin (DIB) 79 - "RRR Design Criteria". A judgment decision must then be made as to whether the need for the project requires proceeding with less than desirable rehabilitation efforts. These cases will require justification and approval in the PSSR.

6. STRUCTURES INFORMATION

Provide the information requested.

See HDM Index 307.3 and DIB 79 for details on bridge (lane and shoulder) width criteria.

Bridges to be widened will either be widened with the RRR project or will be placed in a special grouping and prioritized separately from the normal HA21 Bridge Restoration and Replacement Program. Bridge widening or reconstruction can be deferred from an HA22 project, if necessary (i.e., to avoid delays in PS&E delivery due to environmental or right of way clearance problems, structure design time constraints, etc.). Deferring such bridge work is only to be as a last resort and is not acceptable purely for project cost containment. The District should discuss all potential deferrals of bridge work that appear justified, with the FHWA, the Engineering Service Center (ESC) - Division of Structures (DOS), and the Programming Program, to assure that the deferred bridge work can be incorporated in the HA21 Program. The PD Coordinator should be contacted to discuss all instances in which deferring bridge work from an HA22 project is being proposed, prior to PSSR approval, since exceptions to Mandatory Design Standards are usually required. Once approval to defer the bridge work is given, the District HA21 Program Advisor is responsible for assuring that the deferred work is placed on the District HA21 Priority Listing of Candidate Projects with a special priority number. This is so that the work will be included in the State Highway and Operation and Protection Plan (SHOPP) at the time of next programming. Commitments will need to be monitored per the District's written monitoring procedure. Project Managers and Project Engineers are responsible for performing a thorough investigation to determine if prior commitments have been made as well as documenting future commitments.

7. PAVEMENT CONDITION

Provide the latest information available for each homogeneous segment. This information is to be obtained from the most recent Pavement Management System (PMS) - Pavement Condition Survey Data.

9. COST ESTIMATE

RRR projects may include such items as placement of additional surface material and/or other work necessary to return an existing roadway, including shoulders, bridges, roadside, and appurtenances to a condition of structural and functional adequacy. RRR projects may also include reworking or strengthening of base materials and upgrading of geometric features and appurtenances for safety purposes. Include a cost breakdown for each of the major elements of the project by providing the information requested.

To minimize future cost increases, a thorough scoping of the project needs to be completed during the design field review and a reliable project cost estimate needs to be prepared. Unreliable cost estimates result in severe problems in Caltrans' programming and budgeting, and in local and regional planning. Realistic evaluations as to the final concept, scope, and cost of each project are to be established as early as possible and should be based on the results of the design field review. All anticipated work (i.e.: safety, restoration, hardware modification, etc.) should be included. The project cost estimate should be prepared using the methodology presented in the outline.

Districts should, in coordination with the ESC-DOS, base their cost estimates on experience with similar projects and available historical data. See Chapter 20 and Appendix AA for further details on estimating project costs. The cost estimate for the project should be escalated at the rate used in the planning program for major construction.

Unless the particulars of a specific case justify use of a different factor, a 20% contingency factor should be used.

12A. & 12B. REVIEWS

Summarize all major reviews and coordinations within Caltrans and with other interested agencies. Indicate yes or no, the appropriate individual and the date. Indicate type of federal involvement, i.e., exempt, certification acceptance, or project by project.

Approval of exceptions to mandatory design standards is the responsibility of the Design and Local Program (DLP). This is accomplished via the Mandatory Design Standard Fact Sheet process (see Chapter 21 and Appendix BB). Approval of exceptions to mandatory design standards must be sought as early as possible in the project development process, especially where project concept and/or cost estimate depend on the proposed design exceptions. As soon as nonstandard design features are identified, the PD Coordinator or the Geometric Reviewer should be contacted to discuss the proposed nonstandard features. All nonstandard advisory design standards shall be handled in accordance with the District's approved procedures.

14. PROJECT SUPPORT

Include estimated PY effort and other support costs of project development and construction from the time the project is initially programmed through the final stages of construction. The proposed schedule should be based upon when the District realistically expects that the project would be programmed, typically in the last two years of the program. This information is not required for Minor projects.

The cost of any specialty contracts or other atypical direct project costs which may be required for the project should also be estimated by the proposed fiscal year. Do not include costs for PY estimates. The Project Management Program (PMP) will establish average dollar costs per PY for various functions, including salary, benefits, CADD usage, travel and other direct costs. Once a project is about to be programmed, these rates will be applied to the estimated PY effort by PMP to establish the project's support budget.

16. LIST OF ATTACHMENTS

- Strip map (may be eliminated if Vicinity Map on Cover Sheet is adequate)

A small map showing the project limits consistent with the brief description and Kilometer Posts, and a north arrow. The map should be sufficient to locate the project at a glance for a person unfamiliar with the project. It should show the features used to identify the project limits such as roads, streams, junctions or railroads, and the nearest town (unless too distant), and a note indicating the direction to and name of the next town in each direction. In addition if appropriate to understanding the proposed work, pertinent project features may be shown on the Strip Map, but not on the Vicinity Map.

- A GIS map of the project vicinity and counties containing the project limits. color coding via a color key or legend for the map should indicate:
 - a) the total number of distressed lane miles in the District from the last Pavement condition survey (including the date);
 - b) the location of bad lane miles which the project will retire; and
 - c) the number of bad lane miles which are being retired in the current SHOPP (or midcycle SHOPP) document for the District.

The statistic for item b should be presented beside the largest colorized portion of the project. The key or legend for the color coding should be superimposed in the corner of the map so as to not obscure the project limits, north arrow, or other markers.



Dist - Co - Rte, KP(PM)
RU - EA
RAS - HA22 Program
Month/Year

PROJECT SCOPE SUMMARY REPORT (Pavement Rehabilitation)

Vicinity Map

Show:

- Project limits
- North Arrow

On Route _____

From _____

To _____

I have reviewed the right of way information contained in this Project Scope Summary Report and the R/W Data Sheet attached hereto, and find the data to be complete, current, and accurate:

DISTRICT DIVISION CHIEF – RIGHT OF WAY

APPROVAL RECOMMENDED:

PROJECT MANAGER

APPROVED:

DISTRICT DIRECTOR

DATE

Dist - Co - Rte, KP(PM)

This Project Scope Summary Report has been prepared under the direction of the following registered civil engineer. The registered civil engineer attests to the technical information contained herein and the engineering data upon which recommendations, conclusions, and decisions are based.

REGISTERED CIVIL ENGINEER

DATE



Outline For PROJECT SCOPE SUMMARY REPORT (Pavement Rehabilitation)

1. Project Limits [Dist., Co., Rte., KP(PM)]: _____

2. Brief Project Description:

3. Environmental Status: _____

Date Approved: _____

4. Traffic Data

Present ADT _____ 10-Year ADT _____

DHV _____ % Trucks _____

*T.I. (10 Year) _____ Safety Field Review _____

* Must correlate with T.I. in Materials Report/Deflection Study (date)

Latest 3-Year Accident Data: _____
(average vs. actual rates)

Location(s) of Accident Concentration: _____

Corrective Strategy: _____

5. Roadway Geometric Information

Facility	Minimum Curve Radius	Through Traffic Lanes			Paved Shoulder Width		Median Width
		No. of Lanes	Lane Width	Type (AC or PCC)	Left	Right	
*							
**							
Min. 3R Stds.							

* Enter EXISTING Kilometer Post limits (Expand as needed, for varied geometrics.)

** Enter PROPOSED Kilometer Post limits (Expand as needed, for varied geometrics.)

Remarks (If 3R Standards not being met, briefly explain why, and provide exception approval date. Note: An "Exception to Mandatory Design Standards Fact Sheet" must be completed.):

6. Structures Information

Structures	Width Between Curbs			Replace Bridge Railings	Vertical Clearance			Work Identified in STRAIN	Replace Bridge Approach Rail	Replace Bridge Approach Slab	
Name/No.	Exist	3R Std	Prop	(Y or N)	Exist	3R Std	Prop	(Y or N)	(Y or N)	(Y/N)	#

Remarks (If 3R Standards not being met, briefly explain why, and provide exception approval date. Note: An "Exception to Mandatory Design Standards Fact Sheet" must be completed.):

7. Condition of Existing Facility (Repeat info for each homogeneous segment):

PMS Category (1-29)_____ Priority Classification (.1-.4)_____

Ride Score_____

*PCC Pavement:

* AC Pavement:

* From latest PMS-Pavement Condition Inventory Survey Data.

3rd Stage Cracking% _____ Alligator B Cracking% _____

Faulting _____ Patching% _____

Joint Spalls _____ Rutting _____

Pumping _____ Bleeding _____

Corner Breaks% _____ Raveling _____

Locations(s) of subsurface or ponded surface-water problem_____

8. *Deflection Study Data (Findings and Recommendation for AC pavement):

* The gathering of the field data may be performed by the Office of Materials Engineering and Testing Services (METS) Pavement Consulting Services Branch, District, or consultants. However, METS should make the recommendations in order to have uniformity statewide, subject to METS being able to furnish recommendations in accordance with schedules established by District Project Managers. The deflection study should be no older than 1 1/2 years for project scoping (see Chapter 9, Article 5).

9. Cost Estimate Breakdown:

<u>Structural Section Work</u>	<u>Lane-Kilometers</u>	<u>Number</u>	<u>*Cost</u>
AC Overlay of AC Pavement (recycle not included) ^{1,2}	_____		_____
Hot Recycled AC ^{1,2}	_____		_____
Cold Recycled AC ^{1,2}	_____		_____
Reconstruct Lane(s)	_____		_____
AC Overlay of PCC Pavement ²	_____		_____
PCC Overlay of PCC Pavement ²	_____		_____
PCC Pavement Rehabilitation (List appropriate work type: grind, slab replacement, spall repair, rout & seal random cracks, lane replacement, joint seal, etc.) **	_____		_____
Ramps and OC/UC Approaches	_____	_____	_____
Edge Drain (side km)	_____		_____
Bridge Approaches (ground, replaced)		_____	_____
Total Lane-Kilometers of Rehabilitation	_____		
<u>STRAIN Work</u> ** (List Structures:)			_____
COSTS SUBTOTAL			_____

- Notes:
1. Include cost to remove and replace localized failed areas.
 2. Include cost of shoulder backing material for increased thickness at shoulder edge, as needed.
 - * If duplicated in other items, show cost in parenthesis.
 - ** Add additional lines as necessary.

<u>Does the Project Include?</u>	<u>Yes/No</u> *	<u>Cost</u>
Main Line Widening (lanes and/or shoulders)	_____	_____
Bridge Widening and Rail Upgrade	_____	_____
Included in Project	_____	
Deferred (why) ** _____		
Bridge Rail Upgrade - Without Widening	_____	_____
Included in Project	_____	
Deferred (why) ** _____		
Vertical Clearance Adjustment	_____	_____
Drainage Rehabilitation	_____	_____
(List appropriate work type: roadbed surface, roadside, offsite, subsurface, etc.) **		
Pedestrian Facilities	_____	
Alternations Required (List): ** _____	_____	_____
 <u>Safety</u> **	 <u>Yes/No</u> *	 <u>Cost</u>
Rumble Strip	_____	_____
Superelevation Correction	_____	_____
Vertical Alignment	_____	_____
Horizontal Alignment	_____	_____
Left/Right-Turn Storage/Widening/Lengthening	_____	_____
Signal Upgrade	_____	_____
Median Barrier (State type: e.g., PCC, Thrie Beam)	_____	_____
Metal Beam Guardrails (New)	_____	_____
Concrete Guardrail (New)	_____	_____
Roadside Cleanup	_____	_____
Gore Cleanup	_____	_____
Electroliers	_____	_____
 <u>Utility Relocation</u>	_____	_____
 <u>Railroad Agreements</u>	_____	_____
 <u>Right of Way</u>	_____	_____
 <u>Environmental Mitigation</u>	_____	_____
 <u>Traffic Control</u>	_____	_____
 <u>Other</u> (Identify: e.g., Mobilization Cost, Hazardous Waste Mitigation, etc.) **	_____	_____
COSTS SUBTOTAL		_____

SUM OF SUBTOTALS		_____
20% Contingency		_____
TOTAL PROJECT COST		_____

Notes: * If duplicated in other items, show cost in parenthesis.
 ** Add additional lines as necessary. Do not include support costs.

10. Other Agencies Involved (Permits/Approvals from Fish & Game, Corps of Engineers, Coastal Commission, etc.):

11. Other Considerations

Hazardous waste disposal site required? If yes, where are sites?

Materials and or disposal site needs and availability?

Utility Involvement:

Railroad Involvement:

Consistency with other planning:

Salvaging and recycling of hardware and other non-renewable resources:

Prolonged temporary ramp closures:

Effects on bicycle traffic:

Recycling of AC:

Environmental Issues:

What are the consequences of not doing this entire project?

12A. Has the project been field reviewed by:

District? _____ Date _____

ESC-METS? _____ Date _____

12B. Project Reviewed by:

District Maintenance _____ Date _____

District Safety _____ Date _____

District Materials _____ Date _____

HQ DLP _____ Date _____

HQ Maintenance Program _____ Date _____

FHWA _____ Date _____

Type of federal Involvement: _____
(Exempt, CA, or PxP)

Others _____ Date _____

13. Proposed Funding (IM, NH, etc.):

14. Project Support:

Proposed Program FY	District PY'S			Engineering Service Center PY'S					FY Total PY'S	Other Costs (\$)
				METS and Others		Structures		Office Engr		
	Design	R/W	Constr	Design	Constr	Design	Constr			
TOTAL ESTIMATED PROJECT PY'S AND OTHER SUPPORT COSTS:									PY'S	\$*

* Note: Dollar value of estimated specialty contracts, etc. to be shown only when applicable.

15. Remarks (List all alternatives studied, cost, reasons not recommended, etc.) **

16. List of Attachments

- A. Strip Map - (may be eliminated if Vicinity Map on Cover Sheet is adequate)
- B. GIS Map
- C. Typical Section(s)
- D. PMS Inventory Data
- E. TASAS
- F. Deflection Study Report(s) - (For AC pavements only)
- G. Categorical Exemption/ Exclusion Form (or Draft/Final Environmental Document)***
- H. Right of Way Data Sheet
- I. Scoping Team Field Review Attendance Roster
- J. STRAIN Data
- K. Rail Upgrade Priority Factors
- L. Structural Section Recommendation (Memo from District Materials Unit for widening, realignment, etc.) - (as appropriate)

Note: ** Add additional lines as necessary.

*** If PSSR is for project approval, the CE form or the Final Environmental Document must be attached.